

WHAT IS CLAIMED IS:

1. A bottom valve apparatus of a hydraulic shock absorber comprising:
 - a bottom piece;
 - 5 a flow passage formed in the bottom piece;
 - a check valve opening and closing the flow passage and being disposed in one face side of the bottom piece;
 - a coil spring urging the check valve;
 - the coil spring being fastened by a bolt and a nut which are
 - 10 being disposed in the bottom piece,
 - wherein a thread direction of the nut or the bolt fastening the coil spring is set to an opposite direction to a winding direction of the coil spring.
- 15 2. The bottom valve apparatus of a hydraulic shock absorber according to claim 1, wherein the nut of the bolt has a centering guide for the check valve and the coil spring.
3. The bottom valve apparatus of a hydraulic shock absorber
- 20 according to claim 1, wherein the bolt is insertable from a lower face side of the bottom piece, the check valve and the coil spring are disposed in the vicinity of a protruding end of the bolt protruding to an upper face side of the bottom piece, the nut is screwed with the protruding end of the bolt, and the coil spring is centered and fastened
- 25 by the nut.
4. The bottom valve apparatus of a hydraulic shock absorber

according to claim 2, wherein the bolt is insertable from a lower face side of the bottom piece, the check valve and the coil spring are disposed in the vicinity of a protruding end of the bolt protruding to an upper face side of the bottom piece, the nut is screwed with the protruding end of the bolt, and the coil spring is centered and fastened by the nut.

5. The bottom valve apparatus of a hydraulic shock absorber according to claim 1, wherein the check valve and the coil spring are disposed in an upper face side of the bottom piece, the bolt passing through the check valve and the coil spring is insertable from an upper face side of the bottom piece, the nut is screwed with a protruding end of the bolt protruding to a lower face side of the bottom piece, and the coil spring is centered and fastened by the bolt.

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6. The bottom valve apparatus of a hydraulic shock absorber according to claim 2, wherein the check valve and the coil spring are disposed in an upper face side of the bottom piece, the bolt passing through the check valve and the coil spring is insertable from an upper face side of the bottom piece, the nut is screwed with a protruding end of the bolt protruding to a lower face side of the bottom piece, and the coil spring is centered and fastened by the bolt.

7. The bottom valve apparatus of a hydraulic shock absorber according to claim 1, wherein the coil spring is substantially a spiral shape and is expanded spirally in a moving direction apart from the nut, and an outer peripheral end portion of the coil spring is

contactable with a surface of the check valve.

8. The bottom valve apparatus of a hydraulic shock absorber according to claim 2, wherein the coil spring is substantially a spiral
5 shape and is expanded spirally in a moving direction apart from the nut, and an outer peripheral end portion of the coil spring is contactable with a surface of the check valve.

9. The bottom valve apparatus of a hydraulic shock absorber
10 according to claim 3, wherein the coil spring is substantially a spiral shape and is expanded spirally in a moving direction apart from the nut, and an outer peripheral end portion of the coil spring is contactable with a surface of the check valve.

15 10. The bottom valve apparatus of a hydraulic shock absorber according to claim 4, wherein the coil spring is substantially a spiral shape and is expanded spirally in a moving direction apart from the nut, and an outer peripheral end portion of the coil spring is contactable with a surface of the check valve.

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11. The bottom valve apparatus of a hydraulic shock absorber according to claim 5, wherein the coil spring is substantially a spiral shape and is expanded spirally in a moving direction apart from the nut, and an outer peripheral end portion of the coil spring is
25 contactable with a surface of the check valve.

12. The bottom valve apparatus of a hydraulic shock absorber

according to claim 6, wherein the coil spring is substantially a spiral shape and is expanded spirally in a moving direction apart from the nut, and an outer peripheral end portion of the coil spring is contactable with a surface of the check valve.

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13. The bottom valve apparatus of a hydraulic shock absorber according to claim 1, wherein the coil spring is substantially a complete cylindrical shape.

10 14. The bottom valve apparatus of a hydraulic shock absorber according to claim 2, wherein the coil spring is substantially a complete cylindrical shape.

15 15. The bottom valve apparatus of a hydraulic shock absorber according to claim 3, wherein the coil spring is substantially a complete cylindrical shape.

16. The bottom valve apparatus of a hydraulic shock absorber according to claim 4, wherein the coil spring is substantially a complete
20 cylindrical shape.

17. The bottom valve apparatus of a hydraulic shock absorber according to claim 5, wherein the coil spring is substantially a complete cylindrical shape.

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18. The bottom valve apparatus of a hydraulic shock absorber according to claim 6, wherein the coil spring is substantially a complete

cylindrical shape.